TANKTICS

This is Tanktics, a simulation of armored combat on the Eastern Front during World War II. You command a platoon of German tanks, choosing the number and type of tanks/anti-tank guns you will fight with. The computer is your opponent, commanding a force of Russian tanks twice as large as your own. There are five different scenarios to choose from, each demanding special skills in integrating movement, and offense and defense. Your computer acts as both referee and opponent, determining combat results, sighting, and movement, as well as plotting its own move.

DESIGN CREDITS:

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BEGINNING THE GAME:

When the program begins, the computer will ask for the number of the scenario to be played. Each scenario has an objective hex which must be occupied by your forces or protected from occupation by the enemy.

SCENARIO #1. MEETING ENGAGEMENT. In this scenario, the computer places its tanks and your tanks somewhere on the map. An objective hex is specified. The object is to move to and occupy the objective hex while eliminating the enemy as soon as possible.

SCENARIO #2. HEDGEHOG DEFENSE. Your tanks and/or anti-tank guns are placed around the objective hex, the computer's tanks are placed elsewhere on the board. You must defend the objective hex from the computer's attack.

SCENARIO #3. ARMORED ASSAULT. This scenario is identical to scenario #2, except that the roles are reversed. The computer automatically receives anti-tank guns.

SCENARIO #4. LINE DEFENSE. In this scenario, you must position your tanks and/or anti-tank guns in a line between hex rows H-L, inclusive. The objective hex is placed randomly behind your lines (hex rows A-G). The computer's tanks are placed to the right of your line. They will move in an attempt to penetrate your defensive line and occupy the objective hex. For an example of the positioning procedure see **EXAMPLES OF PLAY** (page 11).

SCENARIO #5. LINE ASSAULT. This scenario is a reversal of scenario #4, you must attack a line defended by enemy anti-tank guns.

When you have decided which scenario to play, key the number in. It is not necessary to press RETURN [ENTER].

The computer will then ask for the number of tanks/anti-tank guns you wish to command. You may choose from one to eight units. The computer will get twice as many units as you choose for yourself. As with the choice of scenario, it is only necessary to key in the number of units, no carriage return is needed.

The next information the computer requires is the type of tanks/anti-tank guns you wish. You may choose from eight different unit types, representing the primary battle tanks and anti-tank guns employed by the Germans on the Eastern Front. These units are listed in the back of this manual. You enter your decision, by merely keying in the number corresponding to the unit type you want. You may mix different unit types within your platoon. However, see "NOTE" under **PLAYING HINTS**, p7.

FOR EXAMPLE: In the defensive scenarios (2 and 4), you may want to have a mixed force of tanks and anti-tank guns. In the other scenarios you may want to mix tank types for a combination of mobility and firepower.

After you key in the type of units you want to command, the computer will request the type of units it is to control. There are six different Russian tanks to choose from, they are also listed in the back of this manual. You may not mix Russian tank types, they are all of the same type.

The choice of tank types is a way to achieve play-balance. If you have difficulty beating the computer, give yourself powerful tanks and the computer control of weak tanks. Adjust the play-balance as you improve.

HOW TO WIN:

If at the end of play you have a positive score, you are victorious. You may judge the quality of victory by the final score. The higher it is the more decisive the victory.

Points are awarded for the following situations:

SITUATION	PLAYER	COMPUTER
A. Closest tank to objective hex:	50 pts.	50 pts.
B. Each hex traversed towards the objective hex by each tank:	1 pt.	½ pt.
C. Each hex traversed away from the objective hex by each tank:	–1 pts.	–½ pts.
D. Each turn played:	–3 pts.	0 pts.

In addition, points are awarded for the destruction of tanks. The formula used is complex, in essence few points are gained for destroying the first few tanks, but many points for destroying the last one. To earn maximum points you should get to the objective hex as quickly as possible and destroy the computer's tanks as far from the objective hex as possible.

THE DISPLAY:

After all the information has been entered there will again be a short delay while the computer sets up all the tanks and initializes the game. The display page will then appear on the screen. This page shows you everything you need to know about the status of the game.

The display is in the following format:

YOUR TANKS				COMPUTER TANKS			
A	1	X19	1	A	AA12	6	AB
(B)	3	Y15	2	*B*			
				C			
				D	Z12	6	A

OBJECTIVE:
  Y15
TURN: 3
SCORE: –6

Your tanks are displayed in a column on the left side of the screen. Reading from left to right, the first letter you see is the tank ID letter. The second bit of information is the type of tank. The third is the position of the tank on the map. The fourth is the facing of the tank, relating to the directional rose in the right margin of the mapboard.

If a tank is knocked out, its facing will be zero, and its ID letter will be bracketed by asterisks. If a tank has already been used this turn and therefore cannot be used again, its ID letter will be bracketed by parentheses. The computer's tank information is formatted in the same way except that you will only see the position of those tanks actually visible to your units. The units which can see an enemy tank are listed after the computer tank's facing number.

HOW TO PLAY:

Near the bottom of the display you will find the prompt: 'WHICH TANK'. The computer is waiting for you to tell it which tank you want to move. Decide which tank you desire to move and key in its letter only. If you do not wish to move any tanks or have finished moving all you care to, key in "X" [RETURN, ENTER]. If you do choose to continue your turn, the computer will then ask for the tank's 'ORDERS'. You have several options at this point . . .

F	FIRE	To fire, key in "F" then the ID letter of the tank you wish to fire on. You may only shoot at tanks which are visible to your unit.
L	LOOK	To determine which enemy tanks you can see, simply key in the letter "L" [RETURN, ENTER], and all of the visible enemy tanks will be listed. Command is then returned to your tank.
#1-8	MOVEMENT	Movement is entered as a series of one hex jumps. Each jump is specified by the direction you wish to move, set by the directional rose on the right margin of the mapboard. Do not press RETURN [ENTER] until your entire move is keyed in.

For Example: to move four hexes in direction 3, you key in "3333", then press RETURN [ENTER].

There are restrictions as to where and how far you can move. You may not enter a lake hex and you may not enter a hex already occupied by one of your tanks. You can however enter a hex occupied by an enemy tank; one of the tanks is always destroyed, and it is a 50/50 chance which tank it is. The distance you can move is determined by the movement allowance of your unit (printed on the counter representing the tank) and the cost to enter the terrain hexes (listed on the terrain effects chart on the right hand margin of the mapboard). In addition, you can rotate the

tank's facing. This is accomplished by keying in a "7" to rotate 60 degrees to the left (counter-clockwise) or by an "8" to rotate 60 degrees to the right (clockwise). This motion costs two movement points. You need not rotate your tank prior to movement. The only value of rotation is to place your frontal armor, which is your thickest, facing the enemy.

0   NO MOVE   If you do not wish to move the tank, enter a "0" and control will move to the next tank.

In essence, you can move or fire. When your move is over (you have moved all of your active units or have passed with an "X") it is time for the computer's move. The computer moves according to the same rules you must follow. During the computer's move you will be notified of any shots its tanks take at yours and the results of the shots. You will also be notified of any overruns. Otherwise you are in the dark. The computer's move typically takes 10 to 20 seconds. When the computer is done the display page will be redrawn, and the prompt "Which Tank" will again appear. The game will continue in this manner until one side's units are eliminated or you quit.

INTERNAL MECHANICS:

Sighting in TANKTICS is immensely more complex than in traditional boardgames. Of course, all of the complexity is handled for you by the computer, but many people may have difficulty adjusting to the vastly greater realism provided by the sighting rules in TANKTICS. Sighting is not an absolute thing. There is probability tied into it. In real warfare there were many cases where somebody should have seen something, but didn't. TANKTICS reflects this luck in its own sighting calculation. There are also a number of other considerations, which are taken into account; type of terrain between you and the enemy, the distance to the enemy and the idea that you may be able to see an enemy unit which cannot see you and vice versa.

Combat is also a little more sophisticated than most traditional board-games. The probability of getting a kill depends on the range, the type of tank that is shooting, the type of the target tank, the facing of the target unit, and the terrain the target is in. Range effects are easy to understand, the farther the target the harder it is to hit and destroy. Unit type is important as it determines the firing gun size and the target's armor. TANKTICS distinguishes front armor, side armor and rear armor. The program calculates which side of the tank is exposed and uses the facing armor in its kill calculation. Terrain is significant for the cover it gives the target unit.

COMPUTER INTELLIGENCE:

You may wish to know how the computer makes its move. Perhaps you would like to know what its weak points are. We won't tell. We want you to learn how to beat the computer in the same way combat experience taught those who fought in World War II. The major difference is that you can make mistakes and improve the next time out. We will tell you that the computer makes very few stupid moves and very few brilliant ones. It is not easily drawn into traps and will give you very few opportunities to attempt them. The computer does play a careful, conservative game with tactics very reminiscent of Russian tactics.

PLAYING HINTS:

This is primarily a game of searching and hiding. Stealth is critical to success. The player who learns to read terrain and choose positions which offer the best combination of concealment and fields of fire will be most successful. One must be prepared for combat at any moment, for there is no way to know when the enemy will pop up. The only way to be so prepared is to move along routes which give good concealment. It may be a good idea to keep a few scouts in rough terrain so they can see ahead of the main body. When you make contact with the enemy, concentrate the maximum firepower on his closest tanks. Do not keep reserve tanks waiting in the rear. Reserves are a luxury you can ill afford when you are outnumbered two to one. Always contrive to have the computer attack you; that way you shoot while it moves, a very advantageous arrangement. However, when the computer's tanks start to close on yours it is time to run. Close range firefights are very bloody and a one for one trade-off is not to your advantage. Mobility is just as much a part of this game as firepower.

NOTE: Anti-tank guns are stationary. Accordingly, the side that is moving (on the offensive) may not be given these weapons for that particular scenario.

We hope you will find this simulation both satisfying and stimulating.

ENJOY.

CASSETTE LOADING INSTRUCTIONS:

ATARI

The ATARI version is in two parts.

Lift the cartridge door on your ATARI 400 or 800 computer and insert the COMPUTING LANGUAGE BASIC cartridge into the computer. Use the LEFT CARTRIDGE slot on the ATARI 800 system.

Press the POWER switch on the side of the console ON. With SIDE ONE of the cassette up, put it into your ATARI CASSETTE RECORDER and press 'REWIND' until the tape stops moving. Using the keyboard, type:

CLOAD

Then press the 'RETURN' key on the keyboard. You will hear one beep. Push 'PLAY' on the recorder and press the 'RETURN' key on the keyboard again. The recorder should start to move and the program will be loaded. By turning up the volume on your video screen you can hear the program being loaded. When the tape stops, the first part of the program has been transferred from the cassette tape to the computer. 'READY' will be displayed on the screen. Type:

RUN

and press 'RETURN' to execute part one. When part one has completed its run, it will return with the prompt 'NOW CLOAD AND RUN SECOND PART'. Using the keyboard type:

CLOAD

Press play on the recorder and then press 'RETURN'. When the tape stops and the ATARI again prints 'READY' on the screen, type:

RUN

and press 'RETURN' to play the game.

Should your video screen display the word 'ERROR', rewind your cassette, press the 'RESET' button at the top righthand corner of the keyboard and repeat all of the above loading instructions.

APPLE II

The Apple II version is in two parts.

The APPLE program is located on SIDE ONE after the ATARI 4/800 program. There are two parts of the ATARI program which must be skipped before the APPLE program can be loaded. By listening to the tape, you can tell the difference between the two programs. The APPLE program is easily recognized by the relatively high pitch and "pure" quality of the calibration tone at the beginning of the program. This tone is free of the characteristic high-pitched ATARI 4/800 buzz. Find the beginning of an APPLE program and position the tape to just after the start of the calibration tone. Set up the recorder for input. On the keyboard type:

LOAD (Don't hit 'RETURN' yet).

Press 'PLAY' on the recorder and immediately press 'RETURN' on the keyboard. The computer will start reading in your program. The computer will beep twice, once at the beginning of the program and once at the end.

This program is not short and will take a few minutes to load. When you hear the second beep, stop the recorder and type:

RUN

and press 'RETURN' to execute Part One.

When Part One has completed its run, it will return with the prompt "Start Recorder then Press Return", Press 'PLAY' on the recorder, then hit 'RETURN'. Part Two will be loaded automatically. The computer will start reading in your program. The Computer will beep twice, once at the beginning of the program and once at the end. This program is not short and will take a few minutes to load. When you hear the second beep, type:

RUN

and press 'RETURN' to play the game.

COMMODORE PET 2001

The Pet Version is in one part.

Turn the tape over so SIDE TWO is up. Insert the tape in your recorder and rewind to the beginning of the tape. When ready, type:

LOAD

and press the 'RETURN' button on the keyboard, then the 'PLAY' button on the recorder. The tape should start moving, and start loading your program. This program is not short, and will take several minutes to load. The computer will tell you when it finds the program and starts loading. When done, the computer will print 'READY', and the tape will stop. Type:

RUN

and press 'RETURN' to play the game.

TRS-80

The TRS-80 version is in two parts.

The TRS-80 program is located on SIDE TWO after the PET 2001 program. There is one copy of the PET program which must be skipped before the TRS-80 program can be loaded. By pulling out the EAR and MIC jacks on the recorder and listening to the tape, you can differentiate the PET program from the TRS-80 program. The PET sounds louder, yet has a lower pitch. The PET program lasts approximately 8½ minutes and is followed by a portion of blank tape which is your cue to prepare to load the TRS-80 program.

Check that the volume control is set to the proper level (between 5 and 6 is normal). Press 'PLAY' on the recorder and type:

CLOAD

(For Mod III only: enter 'L' after 'CASS?', then 'CLOAD'.)

and press the 'ENTER' key on the keyboard. The recorder should start to move and your program will be loaded. This will be indicated by the flashing asterisk at the upper right corner of the screen. This program is not short, and will take several minutes to load. When the tape stops and the TRS-80 prints 'READY' on the screen, type:

RUN

and press 'ENTER' to execute Part One.

When Part One has completed its run, the computer will return with the prompt "CLOAD Part Two". Press 'PLAY' on the recorder, type:

CLOAD

and press the 'ENTER' key on the keyboard. The recorder should start to move and your program will be loaded. This will be indicated by the flashing asterisk at the upper right corner of the screen. This program is not short, and will take several minutes to load. When the tape stops and the TRS-80 prints 'READY' on the screen, type:

RUN

and press 'ENTER' to play the game.

IF YOU CANNOT LOAD THE PROGRAM:

1. Check your equipment carefully to be sure that all cables and connections are correct.

2. Re-read the section in your computer's manual that tells you how to load a tape. Try to load the tape again.

3. If you can adjust the volume on your recorder, try different settings, both higher and lower.

4. If possible, load another program from a tape you know works on your computer. This will prove that your equipment works. Try once more to load your game.

5. The normal reason tapes will not load is tape recorder head misalignment. Your computer may be able to save and load programs on its own recorder, but be unable to read tapes made on a different recorder for this reason. Be sure your recorder heads are correctly aligned. Your local computer store or dealer can help you with this.

6. If the program still cannot be loaded, send the cassette, with a complete description of the problem (what type of computer you have, what the computer says, if anything, when you try to load the cassette or play the game and what you did to try to get it to load) to:

Avalon Hill Microcomputer Games
4517 Harford Road
Baltimore, Maryland 21214

Defective cassettes will be replaced.

AFTER THE PROGRAM IS LOADED:

Once you have your program loaded, it is a good idea to make a backup copy (for your own use). Follow the normal procedure for saving a basic program in your computer's manual.

EXAMPLES OF PLAY:

This section gives some examples that will be useful for the computer game beginner. An important thing to remember is that the computer expects the player to input his commands in a very precise format. The computer is very literal minded and cannot make guesses about what was really meant.

The following sequence is a typical course of events during the play of the game.

WHICH TANK? (Computer puts this on the screen.)
A (Keyed in by player without 'RETURN', tells the computer which tank the player wishes to move.)
ORDERS? (Computer)
2232 [RETURN] (Keyed in by player, as part of movement: two hexes in direction 2, one hex in direction 3, and one hex in direction 2, followed by 'RETURN'.)
WHICH TANK? (Computer)
B (Player)
ORDERS? (Computer)
FC [RETURN] (Player fires on enemy tank "C" with his tank "B".)
YOU MISSED! (Computer displays results of firing.)
MY TURN (After all player tanks have moved, the computer takes its turn automatically.)
D FIRES AT B!—A HIT! (Computer tank "D" fires at player tank "B" and destroys it.)

Display screen is redrawn and it is now your turn again . . . .

EXAMPLE Scenario #4 setup:

POSITION OF TANK A
  HEX-LETTER? (Computer is asking for the LETTER of the hex the tank is to be placed in.)
H (Player indicates column H.)
  HEX-NUMBER? (Computer is asking for the NUMBER of the hex the tank is to be placed in.)
12 (Player indicates hex #12.)

YOU NAME IT, WE'VE GOT A GAME ON IT . . .

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GERMAN UNIT TYPES

CODE #	UNIT TYPE	ARMOR	GUN TYPE	MOVEMENT COSTS
1	PANZER IIIj	Thin	Weak	8
2	PANZER IVh	Moderate	Moderate	7
3	PANZER V	Good	Good	11
4	PANZER VIe	Thick	Good	8
5	PANZER VIb	Very Thick	Very Strong	7
6	50MM AT Gun	*	Moderate	0 ★
7	76mm AT Gun	*	Good	0 ★
8	88mm AT Gun	*	Very Strong	0 ★

RUSSIAN UNIT TYPES

|				
1	T34/76c	Good	Moderate	11
2	T34/85	Good	Good	11
3	KV-I	Thick	Moderate	6
4	KV/85	Thick	Good	6
5	JS-I	Very Thick	Strong	7
6	JS-II	Very Thick	Very Strong	7
7	76mm AT Gun	*	Good	0 ★

*Anti-tank guns are considered to be dug in and therefore use that modifier rather than a specified armor thickness.

★ Anti-tank guns are immobile and cannot move. Nor can they "change facing." as they are considered to have all-around fire and protection capability.

TERRAIN EFFECTS CHART

TYPE	MOVEMENT COSTS Nonroad/road	COMBAT DEFENSE VALUE
Clear	2/1	Poor
Rough	3/2	Moderate
Depression	5/NA	Good
Woods	4/2	Moderate
Lake	NA	NA

COUNTER EXPLANATION

ID letter — A 11 — Movement Allowance

PzKwV

Unit Type
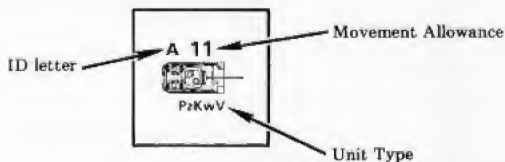
TANKTICS

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DIRECTIONAL
ROSE

```
      1
  6       2
      
  5       3
      4
7           8
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Terrain Effects Chart

	MOVEMENT POINTS	WITH ROAD
CLEAR	2	1
ROUGH	3	2
DEPRESSION	5	NA
WOODS	4	2
LAKE	NA	NA